

REMARKS

Claims 8, 10-12, 14, 17, 18, 20, 22, 24, 26, 28 and 30-49 are pending in this application. By this Amendment, claims 32-49 are added. The added claims introduce no new matter. Reconsideration of the application based on the above amendments and the following remarks is respectfully requested.

Applicant appreciates the courtesies shown to Applicant's representative by Examiners Martin and Shah in the November 13 personal interview. Applicant's separate record of the substance of the interview is incorporated into the following remarks.

The Office Action rejects claims 8, 10, 14, 20, 22 and 31 under 35 U.S.C. §103(a) over U.S. Patent No. 5,462,590 to Yui et al. (hereinafter "Yui") in view of U.S. Patent No. 5,897,695 Mayo et al. (hereinafter "Mayo"); and rejects claims 11, 12, 17, 18, 24, 26, 28 and 30 under 35 U.S.C. §103(a) over Yui in view of Mayo and one or more of U.S. Patent No. 5,777,023 to Pavlin, U.S. Patent Application Publication No. 2002/0050226 to Oki et al. (hereinafter "Oki"), U.S. Patent No. 6,471,348 to Koitabashi, and/or U.S. Patent No. 6,387,506 to Kawamura et al. (hereinafter "Kawamura"). These rejections are respectfully traversed.

The Office Action alleges that it would have been obvious to one of ordinary skill in the art to modify the specifically described ink compositions in Yui, that recite amines in a range of 0.5 - 3% by mass, to include an amine in a range of 13 - 30% by mass, "in order to realize high quality images." This assertion does not establish that one of ordinary skill in the art would have been motivated to combine the references in the manner suggested.

The generic motivation to "realize high quality images" does not articulate or identify how modifying inks with amines in a range of 0.5 - 3% by mass, as in Yui, to include an amine in a range of 13 - 30% by mass, as in the pending claims, would achieve such an objective, much less that it would have been achievable with a reasonable expectation of

success based on the disclosures of the applied references, or any other knowledge gained from the prior art or the knowledge of one of ordinary skill in the art. In this regard, the Examiner is required, under Patent Office Rules, as repeatedly affirmed by the Federal Courts, to provide an explicit obviousness analysis underscored by some objective evidence, rather than some mere conclusory statement, that provides some articulated reasoning and rational underpinning for the conclusions asserted. The conclusory statement of the Office Action does not satisfy this requirement.

Additionally, one of ordinary skill in the art would not have looked to the disclosure of Mayo to combine with Yui to arrive at the subject matter of the pending claims. For example, there is no compound in Mayo having a hydrocarbon group having a hydroxyl group, as recited in the pending claims. The amine compound having a hydroxyl group, as specified in the present claims, does not react with an acid in water. On the other hand, the invention of Mayo is based on the reaction between an amine and an acidic pigment (see, e.g., col. 4, line 12 of Mayo). There is no suggestion of using an amine compound having a hydroxyl group in the invention of Mayo. Therefore, at least the relied-upon amine percentages in Mayo would not have logically commended themselves to one of ordinary skill in the art looking to provide an appropriate amount of an amine compound with at least one of three substituents comprising a hydrocarbon group having a hydroxyl group. Just as there is no basis provided to support the above-articulated conclusion with respect to Yui for the proposition of randomly expanding the disclosed range to include that recited in the pending claims, so too is there no rationale provided for the Office Action to ignore these shortfalls in the disclosure of Mayo.

Further, the Office Action does not establish a reasonable expectation of success for achieving any of the benefits disclosed in the applied references by making such a combination. For example, Yui is directed to providing inks that reliably maintain their

properties when stored for long periods by satisfying pH ranges between 6 - 8, and amines in a range of 0.5 - 3% by mass (see Summary of Invention). Mayo, on the other hand, is directed to inks that achieve characteristic viscosity changes before, during and after shearing (see *e.g.* col. 3, lines 27-33, and col. 4, lines 8-18). Significantly, Mayo discloses pH ranges, in the relied-upon sections, of 8.2 - 9.5 (see col. 4, lines 35-43). As such, it is unclear how Mayo would be obviously combined with Yui to achieve a predictable benefit in light of the disparate teachings of the references, non-complementary pH ranges, and decidedly diverse objectives. This is particularly true with regard to chemical compositions, such as toner inks, that are carefully balanced to achieve specific objectives.

The invention of Mayo is related to an ink composition containing, as described in col. 1, lines 7-10 of Mayo, a pigment such as carbon black and an amine compound associating with the pigment. Therefore, the amount of the amine compound with respect to the amount of the pigment is important, whereas, the amount of the amine compound with respect to the ink composition is not.

During the November 13, 2007 personal interview with the Examiners, the Examiners asserted that col. 4, lines 39-42, of Mayo could be considered to teach a range of the content of the amine compound with respect to the ink composition. However, this interpretation is unreasonable, at least in view of the above discussion, because Mayo is concerned with the amount of the amine compound with respect to the amount of the pigment. Applicant maintains that, contrary to the Examiner's interpretation, there is no explicit recitation in Mayo regarding the content of the amine compound with respect to that of the ink composition. As such, the Office Action's reliance on Mayo as allegedly disclosing the specific feature of a content of the amine compound is in range of 13 to 30% by mass.

Additionally, the broad assertion in Mayo that the amines may be in a range of 0.01 to 50 weight percent does not render obvious the narrower range of 13 - 30% by mass that is

recited in the pending claims and intended to address certain objectives based on unanticipated resulting qualities of the recited compounds. Although a reference that discloses a range encompassing a somewhat narrower claimed range may be sufficient to establish a *prima facie* case of obviousness, this is not applicable when the reference's range is so broad as to encompass a large number of possible distinct compositions (see MPEP §2144.05; *In re Baird*, 16 F.3d 380, 29 USPQ 2d 1550 (Fed. Cir. 1994)). In this case, the asserted range in Mayo would encompass a large number of distinct compositions based on the way in which, for example, 0.01% of amine would effect an ink composition, versus 50% amine (*i.e.* 5,000 times more amine). Applicant also notes that there are no examples in Mayo of any tested ink composition with more than 0.5% amine. As such, the broad disclosure in Mayo fails to render obvious the specific range of 13 - 30% amines by mass based on the standards that are required for such a showing, and apparently ignored in formulating the current rejections.

The other references are not applied in a manner to overcome the identified shortfalls in the application of Yui and Mayo to the subject matter of the pending claims.

These arguments were discussed during the November 13, 2007 personal interview with the Examiners. Agreement was not reached regarding the appropriateness of the current rejections.

For at least the above reasons, the references are not combinable in the manner suggested and no permissible combination of the applied references can reasonably be considered to have suggested the combinations of all of the features positively recited in independent claims 8, 14, 17, 20, 22, 24, 26, 28 and 30. Additionally, claims 10-12, 18 and 31 also would not have reasonably been suggested by the applied references for at least the respective dependence of these claims on allowable base claims, as well as for the separately patentable subject matter that each of these claims recites.

Accordingly, reconsideration and withdrawal of the rejections of the enumerated claims under 35 U.S.C. §103(a) as being unpatentable over the varying combinations of applied references are respectfully requested.

Added claims 32 and 33-49 are also allowable at least for the respective dependence of these claims on an allowable base claim, as well as for the separately patentable subject matter that each of these claims recites. Support for the features of claims 32-49 can be found, for example, on page 36, lines 3-7 of Applicant's specification, as filed.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 8, 10-12, 14, 17, 18, 20, 22, 24, 26, 28 and 30-49 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
Amendment Transmittal

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